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RADICAL CURE OF CONGENITAL INGUINAL HERNIA.

[Read before the Boston Society for Medical Improvement, Sept. 28th, 1863, and communicated for the Boston Medical and Surgical Journal.]

BY DAVID W. CHEEVER, M.D.

ABOUT six months ago I operated on three cases of congenital inguinal hernia, with a view to attempt a radical cure. All were boys of from eight to twelve years of age. One case failed at the outset, ulceration having taken the place of the adhesive inflammation which was hoped for. The other two succeeded; and are thus far, six months after the operation, well. I should have preferred to wait until a year had elapsed before bringing these cases to the notice of the Society; but finding that one of the cases had moved away from the city, and fearing to lose sight of the other, I have brought him here to-night, to show the result of Wood's operation, and will exhibit him to the Society. Before doing so, it may be best to read a short account of the operations. The boy who has moved away was operated on by Gerdy's method; the other, by that of Mr. John Wood, of London, which consists in placing subcutaneous sutures around the inguinal canal.

CASE I.—Daniel S——, a healthy boy, eight years of age, has a congenital inguinal hernia on the right side, as large as a hen's egg, when in the scrotum. The ring admits the fore-finger with ease. The cord, testis and spermatic plexus of veins are healthy. He has worn a truss, but latterly has been unable to keep the hernia up with it, and has left it off.

March 21st.—The bowels having been cleared, and the bladder emptied, he was etherized, placed on his back, the hernia reduced, and kept up by the finger of an assistant pressing over the internal ring. The skin of the scrotum was invaginated into the inguinal canal, and with the cord lying beneath the back of the finger, the inner pillar of the aponeurosis of the *external oblique* muscle and the conjoined tendon of the *internal oblique and transversalis* were raised upon the tip of the finger, about half an inch above the *pubes*.

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A curved needle armed with a silver suture was now entered over the tip of the finger from above the *pubes*, carried through the conjoined tendon, inner pillar and invaginated scrotum, and thence out below the *pubes*, where the invaginating finger was first entered. The needle was now detached, and then, threaded anew with another wire, it was entered from below, passed by the outer side of the finger through Poupart's ligament, and thence across the inguinal canal, emerging at the same point above the *pubes*, where the first suture entered. The four ends of the silver suture were then passed through two holes of a large button, and clamped pretty tightly over it. The boy now vomited and strained violently from the ether, but the hernia did not come down. He was now put to bed on his back, and an opiate administered. He remained strictly in the horizontal posture, and the wound was kept wet with cold water. With the exception of some pain and tenderness over the abdomen, accompanied with but little fever, everything went on well for three days.

March 24th.—He was given some castor oil. In the night he got up unperceived, walked to the water-closet, had a large evacuation, and sat and strained a long while. Severe orchitis now supervened, which ran a course of about a week, and then gradually subsided. It was treated with cold applications and opium. There was a good deal of purulent discharge around the sutures, and a sinus opened above the *pubes*. But the sutures held on; there was no descent of the intestine, and the testicle passed out of the acute stage. Three weeks and a half after the operation the sutures were removed. In one week more the sinuses were closed; the hernia remained up, and the scrotum well invaginated. He was now, one month after the operation, allowed to get up, and walk about the room. No truss was applied.

May 23d, *one month* after getting up, and two months after the operation, the scrotum remained firmly invaginated; the testicle painless, and about one third larger than the other; the inguinal canal filled with a dense deposit of lymph; the hernia up, and no bulging. I have seen this boy from time to time until very recently, and he has remained perfectly relieved; such is his state six months after the operation. I have very little fear of his hernia ever returning. He has worn no truss. He was kept in bed longer than the next case, which was let up too soon.

Case II.—William M——, twelve years old, has a congenital inguinal hernia on the right side. The ring is large, admitting the thumb without difficulty. Testicle, cord and veins healthy; otherwise strong and active. Has worn different trusses that were made for him, but cannot keep it up with them. The difficulty is increasing as he grows.

April 13th.—After being etherized, and the hernia reduced and held up as before, an incision about three fourths of an inch long

was made through the skin of the scrotum of the right side, at its lower part. The fascia of the scrotum was now dissected subcutaneously from the skin, to which it adheres only by loose cellular tissue, for a space of about an inch and a half in diameter all round; or until the fascia could be invaginated into the inguinal canal, without puckering the skin. The fore-finger of the right hand being placed over the cord, and invaginating the fascia of the scrotum as high up into the inguinal canal as possible, a curved needle, with the eye in the point, and set on a firm handle, was next carried up along the finger, and made to perforate the *conjoined tendon* and *inner pillar* near the *internal* ring. The skin over the point of the needle was then drawn a little inwards and upwards, and it was made to emerge, when it was threaded with a silver suture and withdrawn, leaving one end of the wire projecting above the *pubes*. Next the finger was turned downwards and outwards beneath Poupart's ligament, pressing the cord back out of the way. The needle was next made to perforate Poupart's ligament, from within outwards, and as near the central point between the anterior superior spine of the *ilium* and the spine of the *pubes* as possible, and then, by drawing the skin downwards and outwards, the point was brought out at the same hole where the first stitch emerged above the *pubes*. Here a loop of the suture was retained, and the needle again drawn back. The finger being now turned upwards and *inwards*, and the needle following it, it was made to pierce the inner pillar and triangular ligament at the edge of the *rectus*, and again brought out, for the third and last time, through the same puncture above the *pubes*. The needle was now detached, and withdrawn with the finger. There were now left out above the *pubes* two free ends of the wire suture, which had passed through the inner pillar, one near the internal ring, and the other near the edge of the *rectus* muscle; and a loop, whose other end was encircling Poupart's ligament, at a point midway between the *pubes* and *ilium*. The loop and the free ends were now crossed, and brought through two holes of a button, and clamped firmly over it. Previous to this, however, it was found, on passing the finger into the inguinal canal, that the fascia of the scrotum was tightly drawn up into this cavity, that the cord and testicle were free, and that on drawing the wires, the sides of the inguinal canal were approximated to each other. As in the former case, vomiting now came on and failed to bring down the hernia, and the same treatment was adopted as before. There was no orchitis; very little pain; not a bad symptom; on the contrary it was feared that he was not getting up inflammation enough for a cure. There was a pretty free suppuration around the stitches, and through the incision in the scrotum. The sutures were removed in two weeks and a half, and in four days more the wounds had closed. He was now allowed to sit up and move about the chamber. The hernia remained up, and there was some induration along the inguinal canal.

May 13th.—About one fortnight after getting up, a slight protrusion was noticed at the internal ring. Examination by the finger revealed the external ring reduced in size about one half, with firm, sharp and defined edges, showing it to be the result of actual approximation of its walls. There was much thickening of the scrotal fascia and cellular tissue over the ring. He was advised to wear a truss, with a weak spring and a flat pad, for some weeks. Within a few days after putting on the truss he left it off several hours while moving about, and the hernia did not come down. It has never come down since. He has worn the truss at first pretty continuously, then rarely, and for the last month not at all. Being an active boy he disliked the truss, and shirked putting it on when he could. During the last few weeks he has done heavy work, assisting in putting in coal, &c., without the truss, and with no bulging, or feeling of weakness in the groin. He considers himself well, and I think he is.*

These cases were operated on with silver wire—the third case, which failed, with silk ligatures. Dr. Wood now gives the preference to the metallic suture. The instrument used was not unlike an aneurism needle, with the eye in the point, and the latter somewhat sharpened.

Neither of these children were able to keep up their herniæ with a truss; or were benefited by one when worn, although fitted by the best makers of these instruments. It is extremely difficult to keep a truss well-fitted on a young, restless and growing child; and we are inclined to think that the cases in which a hernia with a large ring, or a congenital one, is cured by a truss, are few in number, and the exception rather than the rule.

The opportunity which a subcutaneous dissection of the fascia over an enlarged ring affords for the anatomical study of the internal parts, is not the least interesting feature of this method of operating. Many things become very plain and palpable, which cannot be felt through the skin; such are the conjoined tendon, Poupart's ligament, the crural canal, the external iliac artery, &c.

In Gerdy's method the skin covering the sac is invaginated and held in that position by a ligature thrust through the inter-columnar fascia and skin of the groin, till adhesion takes place at the point of ligature. The method proposed by Wützer substitutes for the finger of the operator a wooden plug variously modified, with the intent to fill the canal and openings, and to stretch them so much as to set up adhesive inflammation all round the invaginated sac. The danger of peritonitis, which is regarded by many as a serious objection to any operation of this kind, may be considered as pretty

* When shown to the Society, the appearance of the parts was as follows:—A linear cicatrix on the right of scrotum, and a slighter round one above the pubes. A little fulness along the course of the inguinal canal of the right side, and some induration. The testes alike, and the cord free. No puckering, or invagination of the skin of the scrotum. A small, external abdominal ring can be felt. Not the slightest bubonocele—*six months after the operation.*

nearly equal in all. But the results of numerous cases operated on seem to prove that the danger is by no means great, nor sufficient to deter the surgeon from endeavoring to cure this common deformity. "A much more awkward objection," says Mr. Wood, "is drawn from the inefficiency of these methods. In all the cases of Wützer's operation which have come under my observation, the result has been unsatisfactory; the rupture re-descending on leaving off the truss." He goes on to enumerate the causes of failure as follows:—

The inefficiency of the steps taken to cause adhesion of the surfaces of the posterior fold of the invaginated sac together, and to the posterior wall of the canal. Into this fold, forming thus a secondary sac, the descent of a knuckle of intestine is imminent.

The action of the plug is to dilate the opening and the canal, instead of contracting them; the external ring and canal being left very patulous after Wützer's operation. The elastic reaction of the skin and the weight of the testis and scrotum tend, consequently, always to drag down the invaginated tissues.

In order to avoid these sources of failure, Mr. Wood thought better to proceed upon a principle directly opposite to that of dilatation, namely, that of *drawing together and compressing by ligature the abdominal opening and inguinal canal, so as to cause their sides to adhere together.* And he also thought best to give the operation *a subcutaneous character*, so as to reach to a higher point within the canal, and to lessen the bulk of the transplanted tissue. These two principles combined he claims to be new in the cure of hernia.

The results intended to be obtained may be briefly recapitulated as follows:—

The posterior and superior boundaries of the dilated canal are drawn forwards and downwards towards Poupart's ligament, and become united by inflammatory adhesion, in the area of pressure exercised by the ligatures, to the anterior and inferior boundaries. By the use of the two ligatures this takes place from the internal opening above, to the external ring below. The effect of this adhesion is to make the posterior wall act like a valve, excluding the bowel by closing against the anterior wall. This action is aided by the contraction of the cicatrized tissues, and increased by the subsequent downward traction of the testis and scrotum. In this way we have an assurance that the older the cure and the more the pressure, the greater the mechanical resistance and security against the return of the protrusion. The spermatic cord is embraced by the contracting tissues in the groove behind Poupart's ligament, which protects it from undue pressure.

In his work on Hernia just published,* Mr. Wood gives the result

* On Rupture, Inguinal, Crural and Umbilical; the Anatomy, Pathology, Diagnosis, Cause and Prevention; with New Methods of effecting a Radical and Permanent Cure. By John Wood, F.R.C.S., &c. London, 1863.

of his operation in *sixty cases*. There was but one death, and that from pyæmia. There were forty-two cures; thus giving about 70 per cent. of *successful* results. Many of these were children, and many, also, adults. A considerable number of the latter worked as sailors, coal-heavers and dock-laborers without trusses, after the operation; and they were kept under observation during a period of a year, or more. It is reasonable to consider the danger of the operation less in a hernia the result of strain, than in a congenital one; for in the latter case we necessarily traverse the peritoneal sac, and in the former we may not. This operation has also the advantage of rendering a truss more efficient, even if it does not cure the hernia. For it leaves the rings smaller and the walls of the inguinal canal nearer together, than they were before.

Mr. Wood has introduced some modifications of his method since these operations were done. But the essential principle is the same; to close the inguinal canal and both rings by approximation, and inflammatory adhesion. And this certainly seems the most reasonable method of attempting a radical cure.

ON THE THERAPEUTIC PROPERTIES OF CARBOLIC ACID.

By Crace Calvert, Ph.D., F.R.S.

I deem it my duty to draw the attention of the medical profession to the valuable therapeutic properties of carbolic acid, which I have during the last two years brought under the notice of some of the leading medical practitioners of Manchester and London. Before giving particulars of the chief applications of this substance which have been made by these gentlemen, I will first state what carbolic acid really is.

Carbolic acid, hydrated oxide of phenyle, or phenic acid, is a white substance, which crystallizes in long prisms, fusible at 93° Fah., and boiling at 370°. It has a slight tarry and aromatic smell, resembling that of wood creosote, and is freely soluble in alcohol, ether, and glycerine, partially so in glacial acetic acid, and only slightly so in water, of which 100 parts will dissolve only three parts of carbolic acid. It is easily prepared by treating the oils of tar, which distil between 350° and 400°, with caustic lye, removing the caustic lye solution from the neutral oils, and adding hydrochloric acid to the alkaline solution, when the carbolic acid is liberated, and rises to the surface as an oily fluid, from which, by distillation, the abovementioned therapeutic agent is obtained.

My friend and colleague, Thomas Turner, Esq., F.R.C.S., and Senior Surgeon at the Manchester Royal Infirmary, read, at the last meeting of the Lancashire and Cheshire Branch of the British Medical Association, a lengthy paper "On the uses of Carbolic Acid as a Remedial Agent," from which I extract the following:—

"In cases of relaxation of the mucous surfaces, the solution of carbolic acid in glycerine, applied by means of a brush or sponge, is most beneficial. Thus its use is indicated in polypi of the nostrils, as well as ozæna, and in all putrid discharges from the mouth, throat, nostrils, ears, rectum, and vagina.

"I shall next call your attention to the use of carbolic acid in *Diphtheria*, in which disease it is a most valuable remedy used topically to the throat. . . . . To apply it I use a sponge mop, which should be used freely, but not saturated, lest a drop should fall into the larynx. The escharotic effect of carbolic acid is confined to the surface to which it is applied, there being no spreading to the contiguous parts, which may happen in the case of nitric acid. The aqueous solution of carbolic acid may be also used as a gargle.

"*Ulcers.*—I apply carbolic acid in different degrees of solution, according to the character of the sore, to carbuncle and ill-conditioned sores.

"*Fistulæ.*—I apply it by means of a wax taper used in lighting gas, or, if the size of the fistula will admit of it, I use a catgut or wax bougie, taking care to carry it to the bottom of the fistula. I have never succeeded in anal fistula where there is a communication with the gut. In these cases an operation is still necessary.

"*Hæmorrhoids.*—The action of carbolic acid is mainly to corrugate, and therefore to obliterate, the sac of the pile. It coagulates the contents, which may be squeezed out; and by corrugation it empties the pile, by which the two surfaces are brought into contact, and thus the sac is obliterated."

Mr. Turner also, in a private note to me, speaks of the use of carbolic acid to fœtid ulcers in the following terms:—"It may be advantageously used, as a solution of one part of acid in forty parts of water, in fœtid ill-conditioned ulcers. It alters the action of the bloodvessels, causing a purulent instead of a sanious discharge, and destroys almost immediately the offensive smell of the secretion. In ulcers having a communication with carious bone, or even necrosis (where the bone is dead), it has, in its diluted state, a good effect when injected into the sinuses leading to the diseased bones. When there is mere caries or ulceration of the bone, it effects the healing process, and in necrosis it promotes the exfoliation of the dead portion. In gangrenous and all offensive sores, it removes all disagreeable smell and putrescency, and may render the discharge innocuous to the contiguous living and unaffected tissues. In its diluted state, therefore, it is a great boon to patients laboring under that class of disease."

When Mr. Turner wishes to employ carbolic acid in a less diluted state than the aqueous solution, and yet not in its full strength as a caustic, he prefers the following solution. He mixes two drachms of pure carbolic acid in one drachm of liquor potassæ and half a pint of water.

It is with pleasure that I am able to add that Mr. Oscar Clayton, F.R.C.S., and Mr. Campbell De Morgan, F.R.C.S., have informed me of several successful applications which they have made of carbolic acid, confirming many of the results of Mr. Turner's, above described.

Mr. Oscar Clayton states that in two cases of fœtor of breath, arising from a diseased state of the mucous membrane covering the tonsils, he applied to the parts a mixture of equal proportions of glycerine and carbolic acid, and with perfect success.

Mr. Campbell De Morgan has also applied the glycerine solution of carbolic acid with success to several cases of lupus.

Dr. James Whitehead, of Manchester, prefers treating this disease (lupus) with an ointment made of half a drachm of carbolic acid to one ounce of spermaceti ointment.

Mr. Oscar Clayton has also successfully employed the aqueous solution to several skin diseases—viz., lepra, tinea capitis, rupia, &c.

Dr. Roberts and other medical men have employed carbolic acid with advantage internally for dyspepsia and other derangements of digestion.

Dr. Pattison, of St. John's-wood, writes to me as follows:—"I have prescribed your carbolic acid in several cases of fungoid disease during the last nine months with marked success. In three cases of fungus hæmatodes in which I employed it, the disease in all was checked in a remarkable manner. A thick crust was speedily formed on the ulcerated and bleeding surfaces, the exhausting discharges were completely arrested, and in one case there was great diminution in the size of the fungous mass. Your carbolic acid is almost a specific in cases of anthrax."

I also think it well to insert the following remarks from Dr. Thomas Hughes, M.R.C.S., F.S.A., London:—"Sir: I have used Dr. Calvert's carbolic acid as an external application in cases of sloughing wounds with the most marvellous effect; and in no case was its effect more strikingly manifest than in the case of Rogers, one of your miners, who received such a contusion of the hand as to destroy the arteries leading to the index and little fingers; and, in spite of every effort made to restore the circulation in the fingers, sloughing took place, and which appeared to spread and extend to the hand and arm with such rapidity, that if it had not been for the timely application of the carbolic acid the man would have lost his arm from the most destructive sloughing I ever witnessed. The effect of carbolic acid was so decidedly marked as to leave no doubt of its wonderful effects in checking the spreading of sloughing, and in accelerating the separation of slough. It seemed also to have the effect of promoting the growth of granulations, and hastening the healing of the wounds. I have used carbolic acid in several other cases with the same happy effect.

"*August 29th*, 1863."

I have found it very successful in one or two cases of intestinal worms, given in doses of a teaspoonful of the aqueous solution in a tumbler of water morning and evening. I have also applied the water solution externally with perfect success in several cases of psora.

Two eminent French physiologists, MM. Gratiolet and Lemaire, have published a most interesting paper on the Action of Carbolic Acid in arresting Putrefaction; and they have made the important observation that, whilst it does not interfere with chemical fermentations, such as the conversion of amygdaline into hydruret of benzoile, and the conversion of myronic acid by myrosyne, it completely arrests all vegetable and animal fermentations which arise from cryptogamic life. They have also observed that when carbolic acid is mixed with the vaccine virus, it entirely prevents its peculiar action upon animal organization.

These valuable observations of MM. Gratiolet and Lemaire strongly impress me with the idea that the use of carbolic acid might prove of great advantage in the early stages of consumption, if applied in the following manner—viz., by making the patient frequently inhale the vapor of the acid by means of an inhaler containing some cotton-wool saturated with the acid so that the inspired air must pass through the wool. I would at the same time administer a teaspoonful of the aqueous solution, mixed with two ounces of peppermint-water, three times a day. I think also that the same treatment might be advantageously tried in cases of scarlatina and typhoid fever, with the addition of saturating the air of the chamber as far as possible with the vapor, by placing lint or wool steeped in carbolic acid in various parts of the room. I would also administer once a day an enema consisting of a weak solution of carbolic acid.—*London Lancet*, Sept. 26.

SUIT FOR DAMAGES FOR ALLEGED MALPRACTICE.

[The *Argus and Spectator*, printed at Newport, N. H., publishes the following report of a suit for damages for alleged malpractice, which was recently tried at that place. The trial is interesting for several reasons. First, its length—a week; second, the verdict, for the defendant; and third, the description of a somewhat novel operation contained in the deposition of Prof. H. J. Bigelow. It will be observed that the Professor employs popular language in order to make himself understood by the jury; of course it is not necessary to interpret it to medical readers.—Eds.]

The case of Elbridge Dowlin *vs.* John L. Swett was commenced on Friday, Sept. 11th, and occupied the Court until Thursday afternoon, the 17th. Counsel for the plaintiff, Hon. E. L. Cushing, of Charlestown, and Arthur Chase, Esq., of Claremont. For the defendant, Hon. Edmund Burke and A. S. Wait, Esq., of Newport.

The parties both reside in Newport, and the writ alleged that the defendant, being a physician and surgeon, undertook to set, heal and cure the plaintiff's arm, which had been fractured; but so carelessly, negligently and unskilfully treated the same that the fractured bone refused to unite, and a false joint was formed, whereby the arm became useless, and the plaintiff was maimed for life.

It appeared in evidence that the plaintiff, who was an operative in one of the woolen mills in Newport, on the 5th of December, 1861, while endeavoring to adjust a belt upon a drum, was caught by the sleeve of his frock upon, and carried round by an iron shaft $1\frac{5}{8}$ inch square, revolving at a velocity of eighty revolutions per minute. As soon as the machinery could be stopped he was taken down, in a senseless condition, his person severely bruised, and his left arm fractured. The defendant was immediately sent for, and was soon in attendance. After the adoption of some measures for the relief of the plaintiff he was removed to his house, where the defendant continued to attend him.

The parties both testified, and it appeared that about the 28th of January, 1862, and after the plaintiff had become able to visit the defendant at his office, by a sudden movement, caused by supposing his child was about to fall, the plaintiff re-fractured his arm; though the extent to which the same had united, and also the character of the movement which separated the fragments, were in dispute. The plaintiff did not inform the defendant of this fact until two or three days afterwards, when he called upon him at his office. The defendant removed and re-applied the dressings, and continued to take charge of the case until the 16th of May, when the re-union was regarded so far advanced as to require no farther attention from the defendant, though he gave directions that the arm should not be made use of in any laborious employment.

Much evidence was introduced on both sides in regard to the manner in which the defendant treated the arm, as well as the conduct of the plaintiff after the 16th of May, which might have an influence in retarding the consolidating of the union. On the 13th of July the plaintiff called upon the defendant, when it was ascertained that there was only a ligamentous union, and of that character which is sometimes called a false joint. The defendant adopted some measures with a view to inducing the bone still to unite; but the plaintiff soon after abandoned the defendant, and applied to Dr. Sanborn, of Newport, who, in connection with Dr. Gregg, inserted a seton through the arm near the point of fracture. But this not proving successful, the plaintiff, on the 4th of December, entered the Mass. General Hospital at Boston, where Dr. Henry J. Bigelow, Surgeon, and Professor of Surgery at Harvard University, performed an operation which is described in the answers in his deposition given below; and which proving successful, the plaintiff has now a good arm, except that it is shorter, by from one to two inches, than the other.

Drs. Gregg and Sanborn testified for the plaintiff.

Drs. Jarvis and Tolles, of Claremont, and Crosby, of Hanover, testified for the defendant, in addition to the deposition of Dr. Bigelow, which was read upon the same side. The following is a portion of the deposition of Dr. Bigelow:

Interrogatory 8. Describe the course of treatment that said Dowlin received at the Hospital.

Ans. The treatment commenced with a surgical operation. I will describe this in detail; and can make it plainer by first speaking of the condition of the bones which required it. The broken ends of the bones were lying near each other, in part touching, covered with gristle, and tied together by elastic cords. Outside this was a quantity of tough substance with very little life in it; at any rate not enough to make bone and mend the fracture. The operation consisted of getting rid of this gristle and tough substance, and then in bringing to the place a membrane which could make new bone, and so stiffen the broken part. To do this, a cut was made down upon the broken place. The gristly ends of the bone were cleaned and turned out so as to get at them. The periosteum was then turned back from each end. The periosteum is a membrane which lies next to healthy bone and makes the bone—forms the bone. So that by turning this membrane back like the cuff of a shirt-sleeve for about an inch from the nearest healthy bone, and then sawing off this uncovered bone, and by then bringing the cuff down again where it belonged, it would at once go to work to make new bone; and this bone would cause the broken place to unite—that is, it would solder it together. This was the operation which was done. The gristly ends of the bone were turned out. The periosteum stripped back from the adjoining sound bone, which was sawed off with the gristle. The cuff was then turned down again, and the two ends of the bone brought together and wired close with a silver wire passed through holes drilled for that purpose. The periosteum then caused the fragments to unite by new bone, shaped somewhat like the solder round the joint of lead pipe.

Interrogatory 9. To what extent had the operation you have described with the periosteum then been known or practised in surgery?

Ans. Only a few times. I have done it several times myself with success. The first time I did it I supposed I had invented it; but a short time, however, after my first operation, there came to this country an account of a similar operation just done in Europe, of which I had not heard before this operation. I have seen only one American case published here since my first was published.

After the arguments and charge the jury retired, and in ten minutes retured with a verdict for the defendant.

Reports of Medical Societies.

EXTRACTS FROM THE RECORDS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. BY FRANCIS MINOT, M.D., SECRETARY.

August 24th.—*Acute Pustular Eruption.*—Dr. Abbot said he had recently seen several cases of severe pustular eruption on the face, such as he had never observed before. The affection was an acute one, and consisted in a scattered eruption of pustules of various sizes, on a large, highly inflamed and very prominent base. Some of the pustules were as large as a cherry-stone, and occasionally one was umbilicated precisely like a smallpox pustule. In some instances the inflamed base was half or two thirds of an inch in diameter, and in one case the inflammation took the form of a superficial abscess, about an inch across. The eruption in every case appeared on the face or beneath the chin, and on the neck; in every instance, also, it was preceded and accompanied by an eruption of lichen tropicus on other parts of the body. In one patient the inflammation extended more deeply, producing proper boils. The pustules varied in number, amounting to some forty or fifty in one patient; they were not very painful. Occurring, as this eruption did, in very hot weather, there seemed good reason to believe that it was caused by the excessive action of the skin, and was only a fuller development of the inflammation which in other parts of the body had the papular form.

Dr. Minot said that a man entered the Hospital under his care, Aug. 4th, with symptoms of typhoid fever. The entire surface of his body was covered with a dull-red rash, in distinct spots, some of which were raised with vesicular or purulent summits. In a few days a number of large pustules appeared on different parts of the face and neck, some of them resembling common boils, and one, on the nose, having the characters of a small carbuncle. This was laid open, and discharged thick pus, leaving a considerable cavity, which slowly healed up. In the mean time the fever pursued its regular course to a favorable termination, and the patient was discharged Sept. 5th.

Dr. Cabot had seen an unusual amount of prickly heat, of late, which seemed to be caused by perspiration, particularly in patients confined to the bed. In an epidemic of scabies which lately appeared at the "Temporary Home," in Kneeland Street, the eruption speedily took on the appearances of impetigo, ecthyma, &c.

Sept. 14th.—*Tumor of the Brain.*—Dr. C. D. Homans showed the specimen. The tumor, which was of a fibrous character, and quite dense, occupied the centre of the middle lobe of the cerebrum on the right side, just over the lateral ventricle. It was of about the size of a small orange. The patient was a gentleman, about 40 years old, who had always been healthy, until he was suddenly seized, after some excitement, with an epileptic fit, which was followed by two others the same day—the only ones he had. After this came on failure of strength, loss of appetite, profound depression of spirits, and finally coma and death, three and a half months after the first attack. There was never any paralysis, nor vomiting, and, apart from the depression of spirits, no affection of the mental faculties.

Dr. Abbot said that this case was of much interest to him in connec-

tion with one he had seen the day before, and which he considered to be a tumor at the base of the brain. The patient, a middle-aged gentleman, had been entirely blind and deaf for four years, but was in good health, without paralysis, and in perfect possession of his mental faculties. The symptoms began with irregularity of the gait and severe pain in the back of the head. At times there has been intense gastrodynia and also pain in the right leg. At rare intervals there has been a violent convulsion, but none of late. The appetite has been at times excessive. The affection is attributed by the friends of the patient to a severe fall, many years since, on the back of the head.

Dr. JACKSON remarked that Dr. Homans's case illustrated the want of correspondence so often noticed between the symptoms and the lesions in diseases of the brain. Many symptoms in the above case which we should suppose would be present, were wanting; the most remarkable features being the retention of the mental faculties and the absence of paralysis. The convulsions with which the case began are usually observed towards the close. He had noticed loss of sight in several cases where the disease was nowhere near the optic nerve. The form of cerebral disease in any particular case is exceedingly difficult to diagnosticate; and it is a great point to make out that there *is* organic disease at all.

Dr. HOMANS had seen a patient who had been treated a long time for uterine disease, without any symptom of disease of the brain till shortly before her death. At the autopsy, a mass of tubercle, as large as a pigeon's egg, was found in the cerebellum. The uterus was also filled with tubercular matter.

Dr. JACKSON had seen a case in which a large, solid tumor arising from the dura mater produced a deep indentation of the brain, but nowhere near the optic nerve. The mental faculties were perfect, the health good until within a few days of death, and there was no paralysis; but there was total blindness, and such severe pain that the case was for a long time regarded as one of neuralgia. In adults who die of tubercular meningitis we often find masses of tubercle in the cerebellum, which must have existed for a long time without giving rise to cerebral symptoms before the invasion of the acute disease, though the patients generally complain of headache.

SEPT. 14th.—Dr. ABBOT said he had received a communication from the physician who attended the patient whose obstetric history he had given at the meeting of August 10th, during her first four labors, making some corrections in his statements. They did not materially affect the object which he had in view, namely, to show that a patient may have a series of difficult or abnormal labors, followed by a natural one. His previous statements were based on information received from the patient herself and the gentleman who had been called in consultation. In the communication referred to, it is stated that "in the second pregnancy the patient was not exactly persuaded to allow premature labor to be induced. She was examined by me in consultation with Dr. ——, who, as you know, was also present at the first confinement. Upon actual measurement, I found the antero-posterior diameter of the pelvis somewhat contracted, but, as in your opinion, I thought the birth of a child at full time might take place. I was the more inclined to this opinion as the first child was unusually large, weighing about eleven pounds *after the removal of the brain*. But Dr.

—— decidedly advised premature delivery. In deference to his superior obstetrical experience I acceded to his opinion, and the woman submitted. Weight of child, nine pounds.

"*Third Pregnancy.* Head presentation; partial placenta prævia; violent flooding, drenching the floor and bed. When I reached the patient she was still flowing, fainting and almost pulseless. Delivered her at once of a dead child, and directly after removed the placenta with ease. The flowing ceased, and the patient had a quick recovery.

"*Fourth Pregnancy.—I advised the patient to consult you.* The patient was extremely anxious to go her full time, but Dr. —— still counselled premature delivery. I told the patient that if any other respectable physician would, on personal examination, say that she could bear a child at full time, I should be willing to attend her. She consulted you, and in deference to your opinion I allowed her to go to the end of her pregnancy. In this case I did not deliver '*by the feet.*' This was a case of breech presentation. The breech was impacted very firmly at the brim of the pelvis for six or eight hours. The expulsive pains were extremely violent, and finally I attempted to assist the passage of the child. I hooked my forefinger over one of the thighs near the hip-joint, both thighs being flexed upon the abdomen, and made extractive efforts during the continuance of the pain. At one time the pain ceased suddenly, and before I could lessen my hold the thigh was broken at its upper third.

"I would also say that in every case, whether premature or at full time, the expulsive action of the womb was remarkably violent, and ether was given freely."

Sept. 14th.—*Fibroid Tumor of the Uterus.*—Dr. Ellis showed a tumor which had been removed by Dr. Storer from the uterus of a woman about 35 years of age. The patient had had a sensation of bearing-down, with frequent difficulty, sometimes amounting to suppression, of micturition, for three or four years. Of late she had had, at times, slight hæmorrhage. Dr. S. discovered, upon vaginal examination, a tumor, filling the entire pelvis, attached to the inner edge of the os uteri. Passing the chain of an *écraseur* around the base, he readily cut it off. The instrument was applied with great difficulty, on account of the want of space in which to manipulate. The tumor measured in circumference twelve inches, and two and a half inches at its attachment. The amount of blood lost was less than an ounce. In ten days the patient was about house, and speedily recovered.

The mass was of a regular and somewhat oval form, distinctly vascular, smooth upon the surface, tough, though not dense to the feel; apparently of a fibro-cellular tissue, though differing, in regard to its uniformity, from the common fibrous tumor of the uterus.

Sept. 28th.—*Dislocation of the Humerus directly backward upon the Scapula.*—Dr. Cabot reported the following case.

D. C. C., æt. 32 years, of moderate muscular development, a carpenter by occupation, a drinking man, not previously subject to fits, on the night of the 25th of August had an epileptic fit, with violent convulsive action. On recovering his consciousness, he found his right shoulder very painful, a loss of power to move the limb, and a swelling on the back of the shoulder. The swelling increased for some hours, and did not diminish for a week; it was seen by three or four medical men, who, according to the patient's account, assured him

that there was no dislocation, and who ordered liniments, &c. When Dr. C. saw him, Sept. 11th, seventeen days after the occurrence of the fit, the swelling had mostly subsided. He found the patient with the elbow pressed in towards the side, with almost complete inability to move the humerus, and but slight power to move the forearm: all motion was painful. The acromion was prominent and the glenoid cavity empty. There was a considerable prominence directly behind the glenoid cavity, to which the shaft of the humerus could be traced; in short, dislocation of the head of the humerus directly backward upon the neck of the scapula, and resting against the posterior edge of the glenoid cavity.

The patient being seated in a chair, Dr. C. placed his knee under the axilla, and using the humerus as a lever, endeavored to lift the bone out of its place, at the same time carrying the forearm across the patient's chest, thus rotating the humerus inwards, in order to relax the pectoral muscle. Failing in this, he seized the scapula with his left hand, and at the same time drew the arm forcibly at a right angle to the body, then suddenly bending it over his knee, again repeated the manœuvre first described, shifting, at the same time, his left hand from the scapula to the head of the humerus, and pressing it towards the socket, when he had the satisfaction of feeling it yield and pass into the glenoid cavity. The shape of the joint was immediately restored, and very soon the patient expressed himself as feeling much easier than he had been since the accident, and the motion was restored. The operation was performed without ether, and without much difficulty. Dr. C. saw the patient a week afterwards, and found the part doing well, though still somewhat stiff and sore.

Sir A. Cooper describes two cases of apparently precisely similar dislocation, which he reduced by carrying the humerus directly upwards and bending the forearm behind the head.

Sept. 28th.—*Diphtheria.*—Dr. H. K. Oliver reported the following case of this disease. The patient, a stout, healthy, married man, 28 years old, a machinist, lived in the upper part of Revere Street, and consequently on high ground. His lodgings were in a comfortable house which was free from effluvia from drains or privies, and he had occupied them for a year. There was no other case of diphtheria in the vicinity, so far as known. He was habitually in different parts of the city, doing "job work." On Sunday, Sept. 6th, he worked at repairs in a distillery. That night he had some symptoms of indisposition. He went to work early the next morning, but remarked that his throat was sore. At 11 o'clock he left work, and returned home in a hack. He had headache and vomiting. An irregular practitioner treated him for tonsillitis, and predicting the speedy rupture of an abscess, made only one or two visits.

He was seen by Dr. Oliver, Sept. 10th, at 3½, P.M. He was sitting on the edge of his bed, able to walk about the room. His face was pale and sallow. Both sides of his throat were much swollen and painful, the swelling extending over the parotid gland. The mouth was opened with difficulty; tongue covered with a thick, dirty-white coat. A white membrane, apparently nearly half an inch thick, covered the right side of the soft palate and tonsil; there was much difficulty in examining the parts of the throat behind these parts. He swallowed without a great deal of difficulty, and with scarcely any

pain. The breathing was similar to that in obstruction by inflammation of the substance of the tonsil. He spoke with great difficulty. Breath extremely offensive. Pulse 84, and natural; temperature of skin normal. He was ordered the tincture of the muriate of iron, and a gargle of muriatic acid, muriate of soda and honey; beef tea at frequent intervals, and extract of conium at night. In the evening, Dr. Oliver removed the membrane with dressing forceps, giving considerable relief. It was about an inch and a half wide and fully a third of an inch thick, and was moulded to the parts from which it was removed.

On the 10th he had slept somewhat better; otherwise, the same. Pulse not quickened. A membrane of the same size and thickness as that of the previous evening, was removed from the same part of the palate. It was less tough than the other, breaking in removal.

[These two specimens were shown to the Society.]

At 2½, P.M. Dr. O. was sent for, and found the patient sitting on the edge of his bed, breathing with difficulty. He left him to make arrangements for opening the trachea, first calling upon Dr. MINOT for assistance. On returning, the patient was found to be easier, and upon consultation with Dr. M., it was decided to postpone operating, and to apply dilute perchloride of iron to the pharynx and soft palate with the sponge probang, after removing as much of the membrane (which had begun to form again) as its fragile condition would allow. The application brought away considerable coagulated blood and mucus, with shreds of membrane. The patient remarked that it was "a good job." He was ordered brandy, and a weak solution of perchloride of iron as a gargle. He was still able to swallow without much difficulty.

At 8, P.M., the patient seemed easier, and expressed himself to that effect. The face had perhaps something of a leaden color, and the pulse was less full. At 10 o'clock, he had another attack of dyspnœa, more severe than the first. He sprang from the bed and rushed into the entry, gasping for breath. He was led back into the room, and lay down on the floor. Dr. O. was at once sent for, and in his absence Dr. PAGE was called, who went to the house immediately, but on his arrival the patient was dead. There was no autopsy. Up to the present time there has been no similar case in the house, though two or three have been reported in the Ward.

Dr. MINOT remarked that the mode of death in this case was precisely similar to that in the case of Dr. Adams, and several others reported to the Society. He regretted exceedingly that tracheotomy had not been performed; it would not have hastened death, and it might have saved life. The patient seemed so free from dyspnœa that it seemed safe to postpone operating, but in another similar case Dr. M. would urge tracheotomy at once.

SEPT. 4th.—*Cystic Disease of the Ovum.*—Dr. ELLIS showed the specimen for Dr. STORER, to whom it had been sent by Dr. Mason, of Charlestown, who stated that it had been expelled from the uterus of a woman who had had flowing at intervals for several months, and who supposed herself pregnant.

The diseased mass, which was only one half of the original tumor, was about half as large again as the fist. The cysts were quite large generally, and were connected by portions of the fœtal membranes,

the amniotic cavity being quite distinct, though there was no trace of an embryo. The amnion could be separated from the chorion, and there were distinct traces of a decidua, besides a considerable amount of recent coagula.

Corrections.—In Dr. Cushing's case, page 140, the paralysis was upon the left side; and in his second case, page 141, the following statement should have been made:—The interventricular septum near the diseased valves, was to the extent of about half an inch softened and disorganized; the central portion of the affected part being broken down into an irregular, ill-defined cavity. This was evidently a recent disease; and if it was not the cause of the symptoms that preceded death for ten days, there was none found.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, OCTOBER 15, 1863.

We feel that we cannot better express the universal feeling of sorrow caused by the announcement of the sudden death of Dr. George Hayward, or the great respect in which his character was held by the profession, and which will always be attached to his memory, than by simply laying before our readers the following resolutions, prepared by two of the bodies of which he was a distinguished member.

As stated in our last issue, a committee of the Councillors of the Massachusetts Medical Society was appointed, with full powers to adopt such measures as they, in consultation with others, should deem appropriate to the occasion. This committee, finding that it was the express desire of Dr. Hayward that no public demonstration be made by his medical associates, at his funeral, in pursuance of this vote present the following resolutions:—

Resolved, That in the death of Dr. George Hayward, the Massachusetts Medical Society has sustained the loss of a prominent, faithful and efficient member.

Resolved, That we gratefully recognize those particular traits of medical character, which, during a long and useful professional career, made him not only prominent in this Society, but serviceable to the profession at large. These features appear in his great fondness for his profession and his high appreciation of its dignity and importance, in his clear and distinct recognition of fixed principles in medicine and surgery; in his readiness to assail each false dogma in medicine, and his deep dislike of every form of empiricism; and in his sanguine disposition, which gave earnestness and energy to his general character.

Resolved, That we recognize the practical application of these prominent features of his medical character, in the faithfulness of his personal attentions to the sick; in his important services to this Society while a member of the Council, for a long series of years, as shown by his able and valuable reports on various subjects, and by the dignity, hospitality and propriety of his course when President of the Society; in his early and continued interest in the Massachusetts General Hospital, and his long and successful career as a surgeon of that institution; in his usefulness to this community as a member, for many years, of the Board of Consulting Physicians for the city—especially at the time of the first invasion of Asiatic cholera; in the public benefit more recently conferred by his strict fidelity as chairman of the Board of Examiners for Military Surgeons—by which the reputation of those entering the service from this Commonwealth has been pre-eminent; in his early use of the anæsthetic agents in surgery, and his earnest

efforts, at home and abroad, to lead the profession to make use only of that one which is the safest and best; in his fostering care of students of medicine, and his faithful instructions to them while occupying a professor's chair.

Nor would we forget his labors for Harvard College, and other literary and scientific associations which have thrown a reflex honor upon the medical profession.

Resolved, That, by this slight recognition of some parts of his useful career, we are reminded that we have lost an honored associate and an esteemed friend.

Resolved, That a copy of these resolutions be sent by the Secretary of the Society to his family, with whom we deeply sympathize in their loss, to the Boston Medical and Surgical Journal, and to some of the city newspapers.

J. C. Dalton,
John Jeffries,
J. Mason Warren,
} Committee.

Boston, October 9th, 1863.

At a meeting of the Medical Commission of Massachusetts held this day, a communication from the Surgeon-General of the State was read, announcing the death of its senior member, Dr. George Hayward, and the desire of his Excellency the Governor to coöperate in some mark of official respect to the memory of the deceased.

The following resolutions were thereupon adopted.

That this Commission learn with great regret of the death of Dr. George Hayward, whose judgment and experience have been so cheerfully given to the Commonwealth as a member of the Medical Commission and Board of Examining Surgeons, over whose meetings he has so long presided.

That in his death the State has been deprived of one who through a long life filled with honor many offices of high public and private trust, and the medical profession of a member whose learning, skill and influence were always freely given in the interests of science and humanity.

Voted, That these resolutions be communicated to the Governor of the Commonwealth.

S. D. Townsend,
John Ware,
J. Mason Warren,
S. Cabot,
Geo. H. Gay,
R. M. Hodges,
W. J. Dale,
Surg.-General.

Nitrous Oxide Gas as an Anæsthetic. *Messrs. Editors*,—Within a few weeks a very large demand has arisen for nitrate of ammonia, to be used in the manufacture of the nitrous oxide gas. A salt which a year since was called for only at long intervals and in small parcels, now suddenly assumes importance as a manufacture, and we are called upon to furnish from our laboratory from *fifty to one hundred pounds daily*.

No allusion, I believe, has been made in the Journal to the extraordinary "laughing gas" furor now raging. Its use has been thus far confined to "travelling lecturers," or "exhibitors," and the dentists. The latter class are in a whirl of excitement respecting its use as an anæsthetic, and many are busy extracting teeth by its aid. Insensibility being produced, the operation is painless. It is alleged that its effects are far more pleasant and transitory than those from ether or chloroform, and that entire exemption from suffering is secured. An operator who claims to have administered the gas to more than two thousand persons within the year, asserts that not a single instance of unpleasant effects has been observed, and that all brought under its influence have declared the sensations delightful in the extreme. He believes that it is an agent of great importance remedially,

and that it is capable of affording speedy and permanent relief, in cases of headache, low vital action, mental depression, &c. &c.

From some observation of its employment, and experiment in its use, I am inclined to regard it as worthy the careful attention of medical gentlemen. Instances of quite remarkable curative effects have been noticed, and upon theoretical grounds it would seem well adapted, by inhalation, to produce decided effects in certain diseases. As regards safety in its use, the fact that it has been for more than a year in the hands of irresponsible and uneducated men, travelling from place to place, causing thousands to inhale it for purpose of fun and entertainment, and no single instance of injury coming to light, is certainly calculated to dispel fear to a very considerable extent.

J. R. Nichols.

We are much pleased to record the recognition contained in the following General Order, of the important services of the Surgeon-General of Massachusetts, Dr. Wm. J. Dale. All who have had any relations with this gentleman in his official capacity will bear cordial testimony to the truth of the encomium contained in the Governor's order. Our soldiers in the field and hospital are under lasting obligations to him for his untiring interest in their welfare.

Headquarters, Boston, Oct. 7th, 1863.

GENERAL ORDER, No. 24.

In view of the conscientious, able and unwearied services rendered during the past two years by Col. William J. Dale, as Surgeon-General of this Commonwealth, His Excellency the Governor directs that he hereafter take rank as Brigadier-General, and that he be obeyed and respected accordingly.

By order of His Excellency, John A. Andrew, Governor and Commander-in-Chief.

William Schouler, Adjutant-General.

Some explanation is due to our readers for the publication this week of Dr. Cheever's paper on the radical cure of hernia, of which an abstract appeared in last week's Journal. It was not intended by the author for publication in our pages, but was prepared as a contribution to the Transactions of the Boston Society for Medical Improvement, which are always printed first in the Journal. Had he been aware of this fact, the abstract would not have been published. The interest of the paper in full will, we trust, be ample compensation for whatever of repetition it may contain.

Boston Dispensary.—At the annual meeting of the Boston Dispensary, held on the 8th inst., the following officers were elected:—

Managers.—Samuel May, Nathaniel L. Frothingham, Uriel Crocker, Henry B. Rogers, J. Huntington Wolcott, George H. Kuhn, Abbott Lawrence, W. R. Lawrence, Henry A. Whitney, Samuel Johnson, Jr., Thomas Wigglesworth, John C. Ropes.

Treasurer.—Francis E. Parker.

Appointments by the Managers. *Consulting Physicians.*—Jacob Bigelow, P. M. Crane.

Consulting Surgeons.—S. D. Townsend, J. Mason Warren.

Attendants at the Central Office.—Henry T. Damon, *Superintendent;* A. K. Carruthers, *Apothecary; Surgeons*—W. W. Morland, C. D. Homans, D. W. Cheever, Algernon Coolidge. *Physicians*—J. B. Upham, J. N. Borland, A. Sinclair, S. L. Sprague, H. K. Oliver, Jr., S. W. Bowles, J. C. White.

District Physicians.—District No. 1, Chas. C. Street; No. 2, John W. Hinckley; No. 3, Dewey R. Warren; No. 4, Henry L. Shaw; No. 5, Charles K. Wheeler; No. 6, John Hart; No. 7, Thomas A. Hoskins; No. 8, William E. Rice; No. 9, vacant.

Mortality from the Use of Chloroform as an Anæsthetic.—Dr. Kidd writes to the London *Medical Times and Gazette* that "thirty-six deaths from chloroform are noted this year, all due to the want of A B C knowledge of the subject." If such is the danger arising from the little knowledge of this dangerous agent, it is high time its use should be limited by special license to those who have mastered the whole alphabet of it. But we greatly fear that those who have reached the Omega are but little more secure from dangerous results in using it than those who are yet mastering the Alpha.

We understand that the Stanley Hospital, Newbern, N. C., has recently received the handsome donation of $600 from Dr. J. Baxter Upham, of this city, for the purpose of supplying wine and other luxuries to the sick and dying soldiers in that institution.

The whole number of deaths in the city of Providence, R. I., during the month of September, 1863, was 127; being 31 less than in the preceding month, but 26 more than in September, 1862, and 30 more than the average for September during the last seven years. The number of deaths from "summer complaints" was unusually large for the season, almost the whole excess over the year 1862 being from those diseases.

VITAL STATISTICS OF BOSTON.

For the Week ending Saturday, October 10th, 1863.

DEATHS.

	Males.	*Females.*	*Total.*
Deaths during the week	57	44	101
Ave. mortality of corresponding weeks for ten years, 1853—1863,	43.3	40.0	83.3
Average corrected to increased population	00	00	91.29
Death of persons above 90	0	0	0

Mortality from Prevailing Diseases.

Phthisis.	Croup.	Scar. Fev.	Pneumon.	Variola.	Dysentery.	Typ. Fever.	Chol. Infan.
12	2	0	4	0	4	7	8

Books Received.—The Principles and Practice of Ophthalmic Medicine and Surgery. By T. Wharton Jones, F.R.S., &c. (From Blanchard and Lea.)

Died,—At New York, 3d inst., of typhus fever, Arthur A. Shiverick, M.D., aged 38 years, formerly of New Bedford.

Deaths in Boston for the week ending Saturday noon, Oct. 10th, 101. Males, 57—Females, 44.—Accident, 1—anæmia, 1—apoplexy, 3—inflammation of the bowels, 1—ulceration of the bowels, 1—congestion of the brain, 2—disease of the brain, 1—bronchitis, 3—cancer, 2—cholera infantum, 8—consumption, 12—convulsions, 3—croup, 2—debility, 1—diarrhœa, 6—diphtheria, 2—dropsy, 3—dropsy of the brain, 3—drowned, 1—dysentery, 4—epilepsy, 1—typhoid fever, 7—gastritis, 1—disease of the heart, 4—malformation of the heart, 1—congestion of the lungs, 3—inflammation of the lungs, 4—marasmus, 5—old age, 1—paralysis, 5—puerperal disease, 1—tabes mesenterica, 1—unknown, 6—worms, 1.

Under 5 years of age, 36—between 5 and 20 years, 7—between 20 and 40 years, 26—between 40 and 60 years, 20—above 60 years, 12. Born in the United States, 67—Ireland, 26—other places, 8.